

Appendix E – Bird Track Springs Fish Enhancement Project – Response to Comments

Dan Heath Comments (from 9/20/2017 meeting with La Grande District Ranger Bill Gamble and 10/5/2017 email from D.Heath)

DH1 – Humans should not meddle with/manage natural processes like rivers. Concerned that the river will do what it wants regardless of planned activities and that the impacts to his property could be negative. He is not interested in any restoration on his property and is comfortable letting natural processes play out.

“There is written statements regarding private land that belongs to me within this EA which also provides false and misleading facts to anyone who views this EA.

There are project maps within the EA that show boundaries outside the scope of this project on private land that belongs to me which is not a part of this project these maps will mislead anyone who views them.” (from 10/5/2017 email).

Response: *We apologize for what was evidently a misunderstanding on our part related to Mr. Heath’s interest in participating in the proposed restoration work on and around his property in the Bird Track Springs project area. Based on his feedback during the EA comment period, activities on his parcel of land and on USFS lands adjacent to his parcel have been dropped in the Bird Track Springs Fish Enhancement Project Decision Notice (DN, page 1). The project now consists of work elements on USFS lands upstream of Jordan Creek Ranch and on Jordan Creek Ranch (see attached map).*

The following actions were proposed in this area (as depicted on the Appendix A – Bear Creek Channel Work Map in the EA):

- Instream channel work in the mainstem Grande Ronde River would include increasing the channel depth and narrowing the channel width by placing the materials taken out of the channel bottom and using it to construct a gravel bar along the eastern edge of the channel. Most of this work was proposed on USFS land, a small portion of this work was proposed on Bear Creek Ranch parcel focusing around the stream channel in this area. This work will not be completed under this decision.*
- Once the gravel bar was constructed and the mainstem channel narrowed and deepened, willow trenches would have been installed scattered across the gravel bar parallel to the mainstem stream channel. Willow trenches consist of a series of trenches approximately 2 feet deep and 4-6 feet long planted with willow branches on the back side of the trench away from the river and backfilled with dirt/cobbles. None of these features will be constructed under this decision.*
- Large logs with root wads would have been placed and dug into the newly constructed gravel bar providing protection for the willow trenches. None of these features will be constructed under this decision.*
- Two deflector engineered log jams would have been constructed along the newly constructed meander bend of the river. These would have slowed the near-bank velocity of the river, captured drifting wood, and protected the banks from erosion during high flows. These jams were proposed on USFS and Jordan Creek Ranch lands, but have been removed from the project under this decision.*

- *Live cottonwood flood fences would have been installed behind the gravel bar to slow flood flows, create deposition, and re-vegetate this area. These would have been approximately 20 feet long and scattered around the new gravel bar area and floodplain. These live fences were proposed on USFS, Jordan Creek Ranch, and Bear Creek Ranch lands. None of these features will be installed under this decision.*
- *Placement of a few boulders and cobbles were proposed in the stream on Bear Creek Ranch to slow stream velocities during high flows and minimize head cutting and erosion. These would not be placed under this decision.*

In addition to the removal of the above from the decision, the following work elements will also not occur on adjacent USFS, State, and private land:

- *Drop Staging/Storage areas 30, 31, 32, 33, and 47 (1.78 acres)*
- *Do not construct all or part of Temporary Access Roads 17, 18, 19 (0.33 Miles)*

DH2 - ...past instream project work upstream in McCoy meadow ended up impacting his property with logs being mobilized and redeposited impacting his property. He is still cleaning up after the work on the past Bear Creek project (vexar tubes, old piles of staged logs/boulders/fencing, etc.). He does not feel we have adequately described in detail the potential long term impacts of the project and how it relates to potential impacts to his property.

There is no discussion of the probability of severe impacts to down stream land owners as a direct result of this project which will be highly likely to occur during Spring conditions when the rivers and streams more often than not flood the lower flood plains already.

Response: *The design team has assessed downstream lands for potential impacts as part of the larger project, what follows is a synopsis of current conditions and proposed project effects for this area. Additional information can be found in the project's Basis of Design Report (BDR) that is drafted at each milestone for the project (15%, 30%, 80%, and final). The 15% and 30% BDR's are complete and can be made available now (see response to Comment DH3 below), the 80% BDR will be completed at the end of November 2017, and the Final BDR is expected to be complete in May of 2018.*

In our opinion, the proposed project (as shown in the preliminary Environmental Assessment figures but with all elements on and near the Bear Creek Ranch removed) will most likely be beneficial to private lands downstream of the project.

The existing river corridor at the project area and downstream is out of balance and currently provides poor fish habitat quality with poor water quality (high summer and low winter water temperatures), lack of large pool habitat, simplified channel bed form with limited habitat diversity and complexity, little to no large wood material for cover and velocity refuge, a disconnected floodplain that limits recharge of groundwater/hyporheic zone and buffering of stream temperatures during summer and winter periods, disconnected floodplain side channels, alcoves, and wetlands that provide valuable juvenile fish rearing, and a poor riparian zone that provides limited shade, large wood recruitment, and nutrients for the aquatic food web. The river exhibits static, simplified conditions in the proposed upstream project area and highly dynamic unstable conditions immediately downstream of the proposed project near and within Bear Creek Ranch (BCR). Sediments, trees, and ice that are eroded, fallen, or lifted from the river corridor upstream of the proposed project are transported through the over-widened and armored Grande Ronde

River channel in the proposed project area. Currently, the first location where the channel interacts regularly with its floodplain and widens dramatically is downstream of the proposed project near the boundaries of the USFS and BCR. At this location, the channel has been actively accessing a large floodplain area located mostly on the downstream BCR property. This area has been very dynamic in recent years as the channel abruptly transitions from a confined and armored channel to a wide and shallow floodplain area. As would be expected, materials (wood, ice, and sediment) transported in flood by the river often end up in this location.

Monitoring and research of this reach during project planning has revealed that this area (downstream of the proposed project near the USFS/BCR boundary) is undergoing relatively rapid change. Dramatic change began to occur following a floodplain enhancement project at this location that included removal of a floodplain berm and a portion of historic railroad grade completed in around 1999-2000. Large scale bank migration followed to include erosion of approximately 150-feet of the right bank at this meander bend during the floods of 2011. More recently, continued dynamic change has included channel deposition, bar formation, and side channel development. Preferential flow paths have been developing within the USFS/BCR floodplain resulting in perennial side channels of the Grande Ronde River through BCR. Given the angle of attack at this 90-degree meander bend, existing upstream conditions, and the lack of mature woody vegetation within this area, there is a potential for avulsion (rapid abandonment of a river channel and the formation of a new river channel) of the entire Grande Ronde River through one of these preferential flow paths into BCR.

During preliminary design, proposed project elements for this location included channel narrowing, bar enhancement, placement of wood features, and re-vegetation to slow water into the floodplain and pass sediments through the channel bend. These conservative project elements were proposed to work with current channel processes in hopes of stabilizing the current channel meander bend configuration. Since these project elements have been removed, this location will continue to evolve with the potential for rapid change that is highly dependent upon future hydrologic conditions regardless of upstream project actions.

The upstream proposed project is being designed to have short term stability (i.e. approximately 10-15 years) utilizing numerous engineered log jams (ELJs) and bank protection features to provide initial horizontal channel and bank stability along with constructed riffles of specific gradation using local river rock sources to provide vertical channel stability. These initial stabilizing elements are very important to project success and are planned to be constructed of local, natural materials, engineered to be stable through anticipated flood events. Previous projects within the region of this scale have shown that these types of elements are stable up to and within extreme flood events. It is anticipated that some of these ELJ elements will deform and shed individual pieces of wood over time. These potential mobile pieces of wood are typically caught by downstream project elements and remain within the project area; however, individual logs may travel downstream of the project and into BCR in a similar manner as currently occurs. Logs used in the project will be a maximum of 45-feet long and will not be tethered with any non-natural fasteners and are therefore similar to what currently moves through this reach during flood events. Long-term stability will be provided by healthy riparian vegetation. Riparian vegetation improvement is expected from extensive plantings and natural recruitment through improved floodplain processes. The proposed project has been designed to retain as much existing vegetation (trees, wetlands, and shrubs) as possible,

while re-establishing disturbed vegetation through extensive soil-treatment, salvage, and replanting efforts.

Hydraulic modeling indicates that flooding within the BCR property will occur in a manner similar to what occurs now. All project elements have been removed from the design in the reach near and slightly upstream of BCR. Other project elements (e.g., side channels) that are designed to provide additional floodplain interaction are routed back to the mainstem Grande Ronde above BCR. The historic railroad grade that currently provides floodplain protection to parts of BCR and Oregon Highway 244 will remain intact within this area and continue to provide protection. Modeling results show nearly identical flood patterns in areas downstream of the proposed project for the 100-year flood event compared to existing conditions. Any future changes to flood patterns within BCR lands are most likely dependent upon physical changes that may or may not occur at the existing river meander bend regardless of upstream project actions, as described previously. The proposed project is likely to slow the existing dynamic processes downstream of the project within the Grande Ronde River reach near the USFS/BCR boundary. The proposed project would provide a significant change to the upstream 1.9-miles of river corridor with construction of a complex network of river channels that would provide increased upstream floodplain interaction. Modeling results show that this complex system would alter the current conditions and provide numerous opportunities for deposition and capture of sediments, mobile wood, and ice upstream of BCR. It is anticipated that initially, the project area would capture the majority of bedload sediments and large mobile wood entering upstream until an equilibrium is reached which would take several years dependent upon hydrology. It is intended that this would allow for the dynamic meander bend that is upstream and near the USFS/BCR boundary time to stabilize through natural re-vegetation processes.

DH3 - I was expecting to see documents that included precise maps, detailing the modifications to the current stream beds detailing in yards or tons how much existing rock sand and silt was going to be removed or modified and what effects that could have on existing stream banks and whether or not the banks were going to be modified as well. Instead there's some very brief mentions of those modifications in very vague language and little or no detail at all.

Response: *The design team is currently wrapping up the permit-ready 80% design package that includes extensive engineering drawings and a written Basis of Design Report (BDR). This design package will be completed at the end of November. Previous drawings and documentation have been completed for conceptual designs (15% design drawings and draft BDR) and preliminary designs (30% design drawings and draft BDR). All of these materials can be made available to you for review as desired. Additionally, members of the planning and design team can meet with you to further discuss these details if desired.*

DH4 - There is no definitive timelines (i.e. July -Sept. as to when work on streambeds, banks, side channels and flood plains would be permitted to occur.

Response: *The Bird Track Springs project is planned to be constructed in two distinct phases. Phase 1 will be constructed on the approximate 1-mile Jordan Creek Ranch reach beginning in late May 2018 with completion by November 15,*

2018. Phase 2, located on the upstream 1-mile project reach on USFS lands will be constructed during the summer of 2019 with completion on November 15, 2019. In-water work is required by permit to be completed between the periods July 1 through October 15th to protect and minimize adverse effects to threatened and endangered fishery resources.

DH5 - There are no details on what mitigation measures will be taken to insure that the construction damage which will surely diminish the stability of the stream beds, banks and flood plains, does not result in severe erosion in the following Spring runoff periods.

Response: As mentioned in a previous response (DH2), the proposed project is being designed to have short term stability (i.e. approximately 10-15 years) utilizing numerous engineered log jams (ELJs) and bank protection features to provide initial horizontal channel and bank stability along with constructed riffles of specific gradation using local river rock sources to provide vertical channel stability. These features are being extensively planned to provide initial stability at critical locations for the project investment as they are understood to be important for project success. Some erosion is expected to occur and is being planned for to maintain a natural balanced supply of sediment in the project reach. The project design team has collectively constructed several projects in similar environments of similar scale with success that have all shown minimal immediate erosion or instability issues using these techniques. As this is a dynamic river environment, there is always a risk of a historic flood event to occur, which may overwhelm mitigation measures. However, such extreme hydrologic risks have been evaluated and have a low probability of occurrence while vegetation re-establishes.

Additionally, the project itself mitigates historic impacts that have resulted in a disconnected floodplain, poor groundwater and water temperature conditions, significant loss of pool habitat and aquatic habitat diversity and complexity, and loss of healthy conditions that provide diversity and structural stability. The project has been designed and would be implemented with extensive best management practices (BMP's) to provide construction related mitigation including:

- Protecting and avoiding existing riparian tree and shrub vegetation,
- Limiting disturbance to minimum footprint as necessary to minimize disturbance to soils and vegetation,
- Confining staging areas, stockpiles, and fueling locations to areas greater than 150 feet of open water
- Implementation of erosion control methods including work area isolation, mulching, and seeding disturbed areas to facilitate vegetation re-establishment.
- Limiting access road density and fully reclaiming to promote vegetation re-establishment

Further details of mitigation measures are described in the EA on pages 18-37, with additional details that can be provided in the aforementioned Basis of Design Report (BDR). These include measure required by USFS resource specialists and BPA's Habitat Improvement Project (HIP III) Programmatic to ensure short-term project impacts are minimized to the extent practicable while the project provides overall long-term benefits.

DH6 - There is no discussion on how long the construction zones will take to fully recover to the vegetated stable state they are currently in.

Response: *The proposed project has been planned by an interdisciplinary team of scientists and engineers with both short-term and long-term goals for habitat and ecological improvements for all species. Goals and Objectives are outlined throughout the EA (see **Note under Response to Comment DH6 below). Detailed project goals and objectives along with proposed project metrics can be found in project Basis of Design Reports (BDR), which can be made available if desired. In particular, it is anticipated that fish habitat will be greatly improved from existing conditions immediately after construction as witnessed by several similar habitat complexity projects where native fish make immediate use of similar treatments. Long-term benefits will only improve as vegetation re-establishes in areas damaged by construction. However, great care has been taken to minimize construction effects with expected rapid improvement. As mentioned, initial bank stability will be provided by Engineered Log Jams (ELJ's) and bank treatments using natural wood, rock, slash, and riparian vegetation. These project elements are designed to provide bank stability immediately after construction and for 10- to 15-years beyond. Long-term bank stability will be provided by ELJ's and improved riparian vegetation conditions that are proposed as extensive plantings. In addition to extensive plantings, it is believed that young black cottonwood, willow, and alder in particular will be prolific in this project reach and will recruit naturally on exposed bar features with improved sediment sorting and hydrologic processes.*

Project implementation will include a Monitoring and Adaptive Management Plan (Plan) that includes longer-term monitoring to assess the project's effectiveness as related to project objectives and maintenance actions, thereby minimizing negative impacts to the environment. The Plan will include the monitoring of riparian and floodplain vegetation, within the construction areas, to ensure an acceptable level of vegetated material is achieved post construction.



Based on monitoring of similar projects implemented in this region, initial recovery of the project area is expected to happen rapidly with extensive vegetation filling-in within 5- to 10-years. Mature trees will understandably take longer, but greatly improved hydrology and sediment sorting would create improved conditions for riparian and wetland vegetation. As an example, the following image is from a similar project completed by the Confederated Tribes of the Umatilla in 2012 at Meacham Creek with extensive re-generation of cottonwood and willow after 5 growing seasons.

Photo: Meacham Creek Project October 17, 2017 after five growing seasons – Note this project was constructed in a floodplain - all riparian vegetation seen in channel and along banks is a result of plantings and natural recruitment.

DH7 - There is no discussion as to how many years it will take for the modified Fish habitat to recover to a natural state that will support all species of the river environment nor is there any discussion on how this project is going to have a net positive impact over the short or long term. We can be sure it's going to make a mess of the fish habitat when it takes place!

Response: *Project sponsors seek to restore fish habitat and floodplain process and function to benefit fishery resources on the Grande Ronde River within the project area. Targeted fish populations include ESA listed Snake River spring-summer Chinook salmon (*O. Tshawytscha*) and summer steelhead (*O. mykiss*). The project area is rearing habitat for juvenile fish that is currently in poor condition with high summer water temperatures, poor habitat complexity and diversity, lack of low velocity habitat typically provided by wetlands and side channels, actively eroding streambanks and limited riparian cover. Proposed actions include stream channel realignment, floodplain grading, side channel and alcove habitat creation, installation of large wood habitat complexity, riparian restoration, and habitat protection. Project objectives include diversifying existing homogenous, plane bed aquatic and riverine habitat observed in the existing condition to a diverse plan form with appropriate dimension, pattern, profile, and floodplain connectivity naturally exhibited in unconfined alluvial floodplains, including increased groundwater, hyporheic functions, and buffering and improving water temperature conditions during summer and winter periods.*

Targeted life requisites for fish spawning and rearing habitat include: summer water temperature/cold water refuge, depth, velocity, cover, sediment, and riparian/wetland. Habitat and geomorphic features and processes enhanced to improve spawning and rearing suitability include: decreased channel slope, velocity and width to depth ratio, increased pool, riffle, run habitat types, habitat complexity and diversity, large pools, and improved diversity of sediment size and storage/sorting of suitable spawning gravel.

***Note - short and long term effects assumptions for aquatic species are defined in the EA on page 46. Net positive effects to fish habitat over the short and long term are described in the EA on pages 46-62. Proposed habitat enhancement from project activities would include: decreases in stream temperatures (EA, page 49-50), decreases in sediment and turbidity (EA, pages 51-52), increased large woody debris (EA, pages 53-54), increased pool size and frequency (EA, pages 54-55), improved streambank condition (EA, pages 55-56), decreased stream width-to-depth ratios (EA, page 56), floodplain stabilization/function and riparian area improvement (EA, page 57), and long term benefits to redband/rainbow trout and steelhead (EA, page 60). The positive effects to hydrologic resources, floodplains, and wetlands (which can also affect fish habitat) are described in detail in the EA on pages 62-80.*

Oregon Wild (OW) Comments – Doug Heiken

OW1 – Oregon Wild supports careful restoration of streams and floodplain functions. We appreciate that the FS appears to have the cooperation of adjoining landowners who are cooperating in this project. What assurance does the FS have that these restoration investments on non-federal land will be perpetuated?

Response: *The Jordan Creek Ranch portion of the project area would be protected by a 15 year term riparian conservation easement between the landowner and the Confederated Tribes of the Umatilla Indian Reservation's Grande Ronde Fish Habitat Program. The conservation easement includes terms to exclude the area from livestock grazing and allow for riparian and fish habitat restoration and enhancement within the conservation area of the property. CTUIR Fish Habitat Program staff would be responsible for conducting weed control, fence maintenance, and monitoring and evaluation on the easement area.*

OW2 – This project has a lot of trade-offs. We are particularly concerned about 3.8 miles of temporary roads. These roads, especially those in the floodplain will compact soils and reduce both air flow and hyporheic water flow. Decompacting the soil with heavy equipment will only partially address these problems.

Response: *It is our goal to vastly improve this area for all aquatic and terrestrial species, as such, the project design team has minimized disturbance to the floodplain area by utilizing existing roads and paths to the extent possible and strategic placement of new temporary access roads and staging areas that minimize disturbance to existing vegetation and wetland features. Upon project completion temporary access roads and staging areas will be obliterated, which will include decompacting; soil will then be stabilized and revegetated. Design criteria and mitigation measures for temporary access roads are described in the EA on pages 17, 19, 22, 23, 27, and 32. Effects of the temporary access roads within the project area are discussed in the EA on pages 51, 57, 75, 77, 78, 86, 90, 92, and 94.*

Additionally, the existing floodplain has many historic uses to minimally include vehicle traffic, camping, rock crushing, grazing, and confined animal feeding operations. Evidence of historic use is throughout the area to be disturbed and in our opinion, would be mitigated along a much faster route to recovery after the project is completed.

OW3 – Wood will be sourced from Jordan Creek Ranch. Will roads be required to extract those logs? Will removal of large wood from these sites enhance or degrade LOS habitat and watershed integrity of Jordan Creek Ranch? How are these trade-offs considered.

Response: *All access for tree removal from Jordan Creek Ranch is already in place and no new permanent or temporary road construction will be required. Field surveys of the Jordan Creek Ranch parcel indicated that there is no LOS habitat present. The sites selected for tree removal are primarily overstocked dry potential vegetation groups. In general, the removal sites would be thinned retaining sufficient trees on site to result in a fully stocked stand. Thinning these stands of trees would reduce competition for resources on the site and promote tree health and stand resilience to potential insect or disease impacts. It would also provide a secondary benefit of reducing potential fire behavior within the area by removing ladder fuels and some existing fuel loadings.*

All stream channels and wetland areas in areas proposed for wood removal would be protected using PACFISH/INFISH no activity buffers. There are no Category 1 Fish Bearing streams in any wood removal units. Perennial non-fish bearing streams would have a minimum no activity buffer of 150 feet on each side of the stream channel and intermittent channels and wetlands (< 1 acre) would have a minimum 100 foot no activity buffer. Implementing these buffers would prevent any potential indirect sediment or turbidity effects

to fish and aquatic species and habitat (EA page 51). Watershed integrity in this parcel is not expected to be impacted by tree removal activities (EA, pages 38-80).

OW4 – We wonder if there are alternative approaches to floodplain restoration where instead of redesigning and recontouring the floodplain, intervention is more localized, highly strategic and intended to initiate a cascade of natural processes (e.g. during floods) that re-establish desired structures and processes on the floodplain.

Response: *During the conceptual design phase (15%), the project design team performed a detailed alternative evaluation process that looked at alternative methods to achieve all project goals and objectives. An alternative that was considered, but shelved, included the strategic placement of engineered log jams (ELJs) throughout the project reach to kick-start processes rather than full-scale channel re-construction. The channel re-construction alternative was unanimously selected and carried forward as the preferred approach based upon a quantitative and qualitative assessment of each alternative meeting project goals. Details of this initial vetting to include project goals and objectives can be found in the 15% Basis of Design Report (BDR), which can be made available for review if desired.*

Additionally, a previous project was constructed within this reach of the Grande Ronde River during the late 90's using similar techniques as described. This project included placement of large wood features, boulders, cross-vanes, and dikes. Remnants of this project are evident throughout the project reach. However, little to no improvement to habitat conditions was achieved from this effort.